

WE CLAIM:

1. A method of resizing a graphical user interface of a computer software application, the graphical user interface having at least one graphical user interface element disposed thereon, comprising the steps of:

5 altering the size of the graphical user interface dynamically to a selected size during running of the computer software application;

notifying a graphical user interface control module that the graphical user interface is being resized to the selected size;

10 notifying the graphical user interface element that it is to be repositioned on the graphical user interface according to a set of rules governing the position of graphical user interface elements on the graphical user interface;

repositioning the graphical user interface element according to the set of rules; and

15 displaying the graphical user interface.

2. The method of Claim 1, whereby the step of repositioning the graphical user interface element according to the set of rules, includes

20 maintaining the graphical user interface element in the same relative position on the graphical user interface after the graphical user interface has been resized, as a position of the graphical user interface element prior to altering the size of the graphical user interface to the selected size.

3. The method of Claim 1, whereby the step of repositioning the graphical user interface element according to the set of rules, includes

25 placing the graphical user interface element in a different relative position on the graphical user interface after the graphical user interface has been resized, as a position of the graphical user interface element prior to altering the size of the graphical user interface to the selected size according to the set of rules as applied to the resized graphical user interface.

4. The method of Claim 1, whereby the step of displaying the graphical user interface, includes the steps of;

constructing a bitmap of the graphical user interface according the selected size;

positioning the graphical user interface element on the bitmap according to the set

5 of rules; and

designating the bitmap for display.

5. The method of Claim 1, whereby the step of notifying the graphical user interface element that it is to be repositioned, includes the steps of:

10 altering the graphical user interface element in response to altering the size of the graphical user interface.

6. The method of Claim 5, whereby the step of altering the graphical user interface element, includes the step of:

15 altering the size of the graphical user interface element.

7. The method of Claim 1, whereby the graphical user interface is a dialog window for providing access to functionality of the computer software application.

20 8. The method of Claim 1, whereby the graphical user interface element includes a plurality of controls disposed on the graphical user interface.

9. A method of resizing a dialog window of a computer software application, the dialog window having a plurality of controls disposed thereon, comprising the steps  
25 of:

running the computer software application;

altering the size of the dialog window dynamically by user action to a selected size while the computer software application is running;

30 notifying a dialog window manager module that the dialog window is being resized to the selected size;

notifying each of the plurality of controls that it is to be repositioned on the dialog window according to a set of rules governing the position of controls on the dialog window;

repositioning the plurality of controls according to the set of rules; and

displaying the dialog window.

10. The method of Claim 9, whereby the step of repositioning the plurality of controls according to the set of rules, includes

specifying a plurality of frames, each frame representing a region within the dialog window, the frames forming a hierarchical tree of frames, the tree of frames including at least one parent frame having at least one associated child frame, wherein a region represented by each parent frame encloses a region represented by its associated child frame, each of the plurality of controls having an associated frame;

determining a minimum size of each child frame;

determining a minimum size of each parent frame based on the minimum sizes of its child frames;

determining a position for each parent frame;

determining a position of each child frame based on the position of its parent frame;

determining a size and position of each of the plurality of controls, based on the determined size and position of its their associated frames; and

designating for display within the dialog window each of the plurality of controls according to their size and position.

11. The method of Claim 9, whereby the step of displaying the dialog window, includes the steps of;

constructing a bitmap of the dialog window according the selected size;

positioning the plurality of controls on the bitmap according to the set of rules;

and

designating the bitmap for display.

12. A computer readable medium having stored thereon computer-executable instructions which when executed by a computer resize a graphical user interface of a computer software application, the graphical user interface having at least one graphical user interface element disposed thereon by performing the steps of:

altering the size of the graphical user interface dynamically to a selected size during running of the computer software application;

notifying a graphical user interface control module that the graphical user interface is being resized to the selected size;

notifying the graphical user interface element that it is to be repositioned on the graphical user interface according to a set of rules governing the position of graphical user interface elements on the graphical user interface;

repositioning the graphical user interface element according to the set of rules;

and

displaying the graphical user interface.

13. The medium of Claim 12, whereby the step of repositioning the graphical user interface element according to the set of rules, further includes the step of:

maintaining the graphical user interface element in the same relative position on the graphical user interface after the graphical user interface has been resized, as a position of the graphical user interface element prior to altering the size of the graphical user interface to the selected size.

14. The method of Claim 12, whereby the step of repositioning the graphical user interface element according to the set of rules, includes

placing the graphical user interface element in a different relative position on the graphical user interface after the graphical user interface has been resized, as a position of the graphical user interface element prior to altering the size of the graphical user interface to the selected size according to the set of rules as applied to the resized graphical user interface.

15. The medium of Claim 12, whereby the step of displaying the graphical user interface, includes the steps of;

constructing a bitmap of the graphical user interface according the selected size;

5 positioning the graphical user interface element on the bitmap according to the set of rules; and

designating the bitmap for display.

16. The method of Claim 12, whereby the step of notifying the graphical user interface element that it is to be repositioned, includes the steps of:

in response to notifying the graphical user interface element that it is to be repositioned, altering the graphical user interface element in response to altering the size of the graphical user interface.

17. A system for resizing a dialog window of a computer software application, the dialog window having a plurality of controls disposed thereon, comprising:

a computer operating system operative to run the computer software application;

a dialog manager module operative to alter the size of the dialog window to a selected size in response to user action while the computer software application is running;

the computer operating system further operative to notify a dialog window manager module that the dialog window is being resized to the selected size;

the dialog manager module further operative to notify each of the plurality of controls that it is to be repositioned on the dialog window according to a set of rules governing the position of controls on the dialog window;

an autolayout module operative to communicate to the dialog manager module to reposition the plurality of controls according to the set of rules; and

the operating system further operative to display the dialog window.

18. The system of Claim 17, whereby the autolayout module is further operative to maintain the plurality of controls in the same relative position on the dialog window after the dialog window has been resized, as a position of the plurality of controls prior to altering the size of the dialog window to the selected size.

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19. The system of Claim 17, whereby the autolayout module is further operative to maintain the plurality of controls in a different relative position on the dialog window and each of the plurality of controls in a different relative position to each other on the dialog window after the dialog window has been resized, as a position of the plurality of controls prior to altering the size of the dialog window to the selected size according to the set of rules as applied to the resized graphical user interface.

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20. The system of Claim 17, whereby the dialog manager module is further operative;

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to construct a bitmap of the dialog window according the selected size;

to position the plurality of controls on the bitmap according a repositioning of the plurality of controls performed by the autolayout module; and

to designate the bitmap for display by the operating system.